ELSEVIER

ISA Transactions 39 (2000) 463–465

ISA
TRANSACTIONS®

www.elsevier.com/locate/isatrans

Cumulative contents of Volume 39

Volume 39, Number 1, 2000

1 **Message from the Editor**

3 **Editorial viewpoint. The century's greatest contributions to control practice**
R.R. Rhinehart

15 **Modeling of an intelligent pressure sensor using functional link artificial neural networks**
J.C. Patra, A. van den Bos

29 **Accurate predictive modeling of response variables under dynamic condition without the use of past response data**
D.K. Rollins, N. Bhandari

35 **Data reconciliation with uncertain models**
D. Maquin, O. Adrot, J. Ragot

47 **Innovation sequence application to aircraft sensor fault detection: comparison of checking covariance matrix algorithms**
F. Caliskan, C.M. Hajiyev

57 **Development of a GPC-based PID controller for unstable systems with deadtime**
K.K. Tan, S.N. Huang, T.H. Lee

71 **An adaptive I-PD controller based on frequency domain system identification**
T. Hashimoto, Y. Ishida

79 **Re-design of Smith predictor systems for performance enhancement**
Q.-G. Wang, Q. Bi, Y. Zhang

93 **Real-time flow control using neural networks**
H.L. Chan, A.B. Rad

103 **Advantages of an electrical control and energy management system**
J.K. Pal, F.C. Huff

115 **Process control reliability: the key to investing in your infrastructure**
L. Estévez-Reyes

Volume 39, Number 2, 2000

123 **Message from the Editor**

125 **Viewpoint on ISA TR84.0.02 — simplified methods and fault tree analysis**
A.E. Summers

Published by Elsevier Science Ltd.

133 Static and dynamic stresses of practical thermowells
D.S. Bartran, D.R. Frikken, J.M. Kinsey, R. Schappelle, R. Yee
143 Simulation modeling of nuclear steam generator water level process — a case study
F. Zhao, J. Ou, W. Du
153 Workflow management with systems approach: anticipated and ad-hoc workflow for scientific applications
N.A. Assimakopoulos
169 Fiber Bragg grating temperature sensor for practical use
N. Hirayama, Y. Sano
175 Auto-calibration and -compensation of a capacitive pressure sensor using multilayer perceptrons
J.C. Patra, A. van den Bos
191 Controller designs for constant cutting force turning machine control
W.C. Pitstra, J.K. Pieper
205 Sliding mode control: an approach to regulate nonlinear chemical processes
O. Camacho, C.A. Smith
219 Robust on-line relay automatic tuning of PID control systems
K.K. Tan, T.H. Lee, X. Jiang
233 Simultaneous online automatic tuning of cascade control for open loop stable processes
K.K. Tan, T.H. Lee, R. Ferdous
243 LQG controller design using GUI: Application to antennas and radio-telescopes
E. Maneri, W. Gawronski
265 Control valves and process variability
S.R. Wilton
273 Integration of advanced process control and full-scale dynamic simulation
N. Ye, S. Valluri, M. Barker, P.-Y. Yu
281 Foundation fieldbus economics comparison
I. Verhappen

Volume 39, Number 3, 2000

287 Floating the data acquisition chains to improve the quality of measurements
C. Vibet
293 Pattern classification by a neurofuzzy network: application to vibration monitoring
P. Meesad, G.G. Yen
309 The development of reactor coolant pump vibration monitoring and a diagnostic system in the nuclear power plant
I.S. Koo, W.W. Kim
317 PID gain scheduling using fuzzy logic
T.P. Blanchett, G.C. Kember, R. Dubay
327 Intelligent control of a cryogenic cooling plant based on blackboard system architecture
D.A. Linkens, M.F. Abbod, A. Browne, N. Cade
345 Soft-testing of industrial control systems programmed in IEC 1131-3 languages
G. Hassapis

357 Expanding the applicability of ISA TR84.02 in the field
L. Beckman
363 A method to prevent excessive numbers of Markov states in Markov models for quantitative safety and reliability assessment
B. Knegtering, A.C. Brombacher

Volume 39, Number 4, 2000

371 Measurement and thermal modeling of high-Q piezoelectric resonators
M.I. Dieste, J. Vicente
379 Probability density estimation using incomplete data
K. Morad, W.Y. Svrcek, I. McKay
401 Design of robust discrete control with desirable quadratic stability
F. Caliskan, M.A. Zohdy
407 Auto-tuning of TITO decoupling controllers from step tests
Q.-G. Wang, B. Huang, X. Guo
419 Robust PID tuning strategy for uncertain plants based on the Kharitonov theorem
Y.J. Huang, Y.-J. Wang
433 Identifying three-phase induction motor faults using artificial neural networks
S. Kolla, L. Varatharasa
441 A methodology for development of configurable remote access measurement system
M. Abdelrahman, A. Rasheed
459 Author index of Volume 39
463 Cumulative contents of Volume 39